

Questions to Ask About a Research Article

1. What is the basic research question or problem? Try to state it in just one sentence. (Chapter 2)
2. Is the purpose of the study explanatory, evaluative, exploratory, or descriptive? Did the study have more than one purpose? (Chapter 1)
3. Was the theoretical framework presented? What was it? Did it seem appropriate for the research question addressed? Can you think of a different theoretical perspective that might have been used? (Chapter 2)
4. What prior literature was reviewed? Was it relevant to the research problem? To the theoretical framework? Does the literature review appear to be adequate? Are you aware of (or can you locate) any important omitted studies? (Chapter 2)
5. How well did the study live up to the guidelines for science? Do you need additional information in any areas to evaluate the study? To replicate it? (Chapter 2)
6. Did the study seem consistent with current ethical standards? Were any trade-offs made between different ethical guidelines? Was an appropriate balance struck between adherence to ethical standards and use of the most rigorous scientific practices? (Chapter 2 and in each methods chapter)
7. What were the major concepts in the research? How, and how clearly, were they defined? Were some concepts treated as unidimensional that you think might best be thought of as multidimensional? (Chapter 3)
8. Were any hypotheses stated? Were these hypotheses justified adequately in terms of the theoretical framework? In terms of prior research? (Chapter 2)
9. What were the independent and dependent variables in the hypothesis or hypotheses? Did these variables reflect the theoretical concepts as intended? What direction of association was hypothesized? Were any other variables identified as potentially important? (Chapter 2)

10. Did the instruments used—the measures of the variables—seem valid and reliable? How did the author attempt to establish this? Could any more have been done in the study to establish measurement validity? (Chapter 3)

11. What were the units of analysis? Were they appropriate for the research question? If some groups were the units of analysis, were any statements made at any point that are open to the ecological fallacy? If individuals were the units of analysis, were any statements made at any point that suggest reductionist reasoning? (Chapter 4)

12. Was the study design cross-sectional or longitudinal, or did it use both types of data? If the design was longitudinal, what type of longitudinal design was it? Could the longitudinal design have been improved in any way, as by collecting panel data rather than trend data, or by decreasing the dropout rate in a panel design? If cross-sectional data were used, could the research question have been addressed more effectively with the longitudinal data? (Chapter 5)

13. Were any causal assertions made or implied in the hypotheses or in subsequent discussion? What approach was used to demonstrate the existence of causal effects? Were all three criteria for establishing causal relationships addressed? What, if any, variables were controlled in the analysis to reduce the risk of spurious relationships? Should any other variables have been measured and controlled? How satisfied are you with the internal validity of the conclusions? (Chapters 5, 6)

14. Was a sample or the entire population of elements used in the study? What type of sample was selected? Was a probability sampling method used? Did the authors think the sample was generally representative of the population from which it was drawn? Do you? How would you evaluate the likely generalizability of the findings to other populations? (Chapter 4)

15. Was the response rate or participation rate reported? Does it appear likely that those who did not respond or participate were markedly different from those who did participate? Why or why not? Did the author(s) adequately discuss this issue? (Chapters 4, 6)

16. Was an experimental, survey, participant observation, or some other research design used? How well was this design suited to the research question posed and the specific hypotheses tested, if any? Why do you suppose the author(s) chose this particular design? How was the design modified in response to research constraints? How was it modified in order to take advantage of research opportunities? (Chapters 6–10)

17. Was an evaluation research design used? Which type was it? What was the primary purpose of the evaluation? (Chapter 11)

18. Were multiple methods used? Were findings obtained with different methods complementary? (Chapter 11)

19. Was any attention given to social context? To biological processes? If so, what did this add? If not, would it have improved the study? Explain. (Chapter 5)

20. Summarize the findings. How clearly were statistical and/or qualitative data presented and discussed? Were the results substantively important? (Chapters 9, 12)

21. Did the author(s) adequately represent the findings in the discussion and/or conclusions sections? Were conclusions well grounded in the findings? Are any other interpretations possible? (Chapter 13)

22. Compare the study to others addressing the same research question. Did the study yield additional insights? In what ways was the study design more or less adequate than the design of previous research? (Chapters 2, 10, 12)

23. What additional research questions and hypotheses are suggested by the study's results? What light did the study shed on the theoretical framework used? On social policy questions? (Chapters 2, 10, 12)

How to Read a Research Article

The discussions of research articles throughout the text may provide all the guidance you need to read and critique research on your own. But reading about an article in bits and pieces in order to learn about particular methodologies is not quite the same as reading an article in its entirety in order to learn what the research discovered. The goal of this appendix is to walk you through an entire research article, answering the review questions introduced in Appendix B. Of course, this is only one article, and our “walk” will take different turns from one taken by a review of other articles, but after this review you should feel more confident when reading other research articles on your own.

For this example, we will use an article by Alarid, Burton, and Cullen (2000) on gender and crime among felony offenders (reprinted in this volume on pp. C-8–C-31). It focuses on a topic important to explaining the similarities and differences between male and female offending patterns as well as to questions of the generalizability of central criminological theoretical perspectives. Moreover, the article is published in a reputable criminological journal, the *Journal of Research in Crime and Delinquency*, indicating the article makes an important contribution to what is known about the etiology of criminal offending across gender groups.

We have reproduced below each of the article review questions from Appendix B, followed by our answers to them. After each question, we indicate the article page or pages that we are referring to. You can also follow our review by reading through the article itself and noting our comments.

1. What is the basic research question or problem? Try to state it in just one sentence. (Chapter 2)

The clearest statement of the research question actually consists of two questions: “[Can] social control and differential association theories . . . help account for participation in crime among young adult male and female felons?” (p. 174 in the original article). Prior to this point, the authors focus on the research problem, describing the limitations of past research and why exploring social control and differential association theories across gender groups among felony offenders is important.

2. *Is the purpose of the study explanatory, evaluative, exploratory, or descriptive? Did the study have more than one purpose?* (Chapter 1)

This study is exploratory in nature. The literature review (pp. 171–174) makes it clear that the primary purpose of this research is exploratory since new ground is being covered based on the limitations of past research. In addition, the problem statement indicates the exploratory character of the study: It “attempts to test the generality of social control and differential association theories to a population that has been infrequently studied” (p. 173).

3. *Was the theoretical framework presented? What was it? Did it seem appropriate for the research question addressed? Can you think of a different theoretical perspective that might have been used?* (Chapter 2)

This study uses two theoretical perspectives, “social control” and “differential association.” This framework is very appropriate for the research questions addressed because this study explores the applicability of these theories to adult populations and their generalizability across gender groups. Because the research question focuses specifically on the applicability and generalizability of these specific theoretical perspectives, no other theoretical framework would be applicable.

4. *What prior literature was reviewed? Was it relevant to the research problem? To the theoretical framework? Does the literature review appear to be adequate? Are you aware of (or can you locate) any important omitted studies?* (Chapter 2)

Literature is reviewed from the article’s first page until the “method” section (pp. 171–174). All the literature seems relevant to the particular problem as well as the general theoretical framework. The first few paragraphs generalize the findings of several studies that measures of both theories are related to criminal involvement (pp. 171–172). The authors then discuss the limited focus of previous studies and their rationale for selecting social control and differential association as their focus for this study (pp. 172–174). We leave it to you to find out whether any important studies were omitted.

5. *How well did the study live up to the guidelines for science? Do you need additional information in any areas to evaluate the study? To replicate it?* (Chapter 2)

It would be best to return to this question after reading the whole article. The study clearly involves a test of ideas against empirical reality to the extent that reality could be measured; it was carried out systematically and disclosed, as far as we can tell. Because the authors used a sample of newly incarcerated felons, it may be difficult for others to replicate the authors’ findings. Drawing from previous research, the authors make some general assumptions about what factors best measure social control and differential association (p. 177). However, in previous studies, those factors measuring social control and differential association have been applied primarily to juvenile populations (p. 172). Intuitively, the same measures or indicators may not be applicable to adult populations (e.g., parental attachment and peer attachment), but we have no empirical evidence of

this. The authors also assume respondents' reports of past criminal behavior are valid (pp. 177–178). It appears these are reasonable assumptions, but they are unproved assumptions that could be challenged. This is not in itself a criticism of the research, since some assumptions must be made in any study. The authors specified the meaning of key terms, as required in scientific research. The authors did search for regularities or patterns in their data, thus living up to another guideline. A skeptical stance toward current knowledge is apparent in the literature review and in the authors' claim that "social control and differential association theory appear to have general effects" on young adult felons and across gender groups (pp. 189–190). They encourage the development of new theories but emphasize the importance of "older" theoretical perspectives and their application to underresearched topics (p. 192). The study thus seems to exemplify adherence to basic scientific guidelines and to be very replicable.

6. *Did the study seem consistent with current ethical standards? Were any trade-offs made between different ethical guidelines? Was an appropriate balance struck between adherence to ethical standards and use of the most rigorous scientific practices?* (Chapter 2)

To the best of our knowledge, the study was consistent with current ethical standards. "All data were collected directly from the participants themselves" (p. 175). In accordance with the ASA code of ethics, participation in the study was voluntary, and the participants gave their informed consent to participate. The reporting seems honest and open. The original survey used by the authors is not likely to have violated any ethical guidelines concerning the treatment of human subjects, although it would be necessary to inspect the survey instrument itself to evaluate this.

7. *What were the major concepts in the research? How, and how clearly, were they defined? Were some concepts treated as unidimensional that you think might best be thought of as multidimensional?* (Chapter 3)

There are two key concepts in this study, social control and differential association. These concepts are the focus of the study and are discussed at length. These concepts, however, were not defined so that a layperson would understand what these concepts mean.

8. *Were any hypotheses stated? Were these hypotheses justified adequately in terms of the theoretical framework? In terms of prior research?* (Chapter 2)

Three hypotheses are stated, although they are labeled as theoretical predictions, which are derived from previous research (p. 173). The first hypothesis is that social control will account for variation in offending across gender groups. The second hypothesis is that differential association will account for variation in offending across gender groups. Finally, the third hypothesis is that the effect of the competing theory will be spurious.

9. *What were the independent and dependent variables in the hypothesis(es)? Did these variables reflect the theoretical concepts as intended? What direction of association was hypothesized? Were any other variables identified as potentially important?* (Chapter 2)

The dependent variable for this study is past criminal activity. For purposes of analysis, past criminal behavior is divided into three subscales resulting in four dependent variables: general crime (the total of all criminal activities), violent crime, property crime, and drug crime (p. 177). There are eight independent variables included in this study. The independent variables for the first hypothesis include five social control indicators. These include marital/partner attachment (0 = not married/unattached and 1 = married/attached), attachment to parents (a three-item composite index, higher values represent stronger attachment), attachment to friends (a two-item index, higher values represent stronger attachment), involvement in conventional activities (a two-item index measuring how much free time individual has, higher values represent more free time), and moral belief in the law (measured by a two-item index with higher values representing stronger belief) (pp. 178–180).

The independent variables for the second hypothesis include three indicators of differential association. These include individual definitions toward crime (a five-item index, higher values represent greater tolerance of criminal behavior), others' definitions toward crime (a three-item index, higher values represent greater association with individuals who hold favorable definition toward violating the law), and criminal friends (continuous variable indicating the number of close friends who have broken the law) (pp. 180–182).

Can you identify the variables in the final hypothesis?

10. *Did the instruments used—the measures of the variables—seem valid and reliable? How did the author attempt to establish this? Could any more have been done in the study to establish measurement validity?* (Chapter 3)

The measurement of the dependent variable was straightforward. The authors report the scale used has been identified as a valid and reliable self-report assessment of antisocial behavior (p. 176). In addition, reliability was assessed using Cronbach's alpha method, which indicated the general scale and the subscales are a reliable measure of criminal behavior. The measurement of the independent variables was also straightforward. The authors report the scales used have been identified as valid measures of social control and differential association indicators. In addition, Cronbach's alpha reliability testing shows the measures are reliable.

11. *What were the units of analysis? Were they appropriate for the research question? If some groups were the units of analysis, were any statements made at any point that are open to the ecological fallacy? If individuals were the units of analysis, were any statements made at any point that suggest reductionist reasoning?* (Chapter 4)

The authors sampled young adult, first-time felony offenders sentenced to a residential court-ordered boot camp program. The units of analysis are appropriate for the research question. No statements were made at any point that suggest reductionist reasoning.

12. *Was the study design cross-sectional or longitudinal, or did it use both types of data? If the design was longitudinal, what type of longitudinal design was it? Could the longitudinal design have been improved in any way, as by collecting panel data rather than trend data, or by decreasing the dropout rate in a panel design? If cross-sectional data were used, could the research question have been addressed more effectively with the longitudinal data?* (Chapter 5)

The survey was cross-sectional. The research question could have been addressed more effectively with longitudinal data that followed people from childhood into adulthood, since many of the authors' interpretations reflect their interest in how individuals' past experiences shape their propensity for criminal behavior.

13. *Were any causal assertions made or implied in the hypotheses or in subsequent discussion? What approach was used to demonstrate the existence of causal effects? Were all three criteria for establishing causal relationships addressed? What, if any, variables were controlled in the analysis to reduce the risk of spurious relationships? Should any other variables have been measured and controlled? How satisfied are you with the internal validity of the conclusions?* (Chapters 5, 6)

The explanatory hypotheses indicate that the authors were concerned with causality. However, the lack of previous research on their chosen population suggests an exploratory approach to causality. In order to reduce the risk of spuriousness in the presumed causal relationships, three control variables were included in the analysis: age, race/ethnicity, and gender (p. 188); these variables have been shown to be strongly related to criminal activity. There are other variables that might have created a spurious relationship, but at least several of the most likely contenders have been controlled. For example, some of the differences in social control and differential association measures may be due to social class—that is, individuals who were raised in more affluent families are more likely to have had greater social control in their lives and less opportunity to be involved with individuals who favor, or at least justify, criminal behavior. Income has also been shown to be negatively related to criminal activity—that is, the higher an individual's income, the less likely he or she is to engage in criminal activity.

14. *Was a sample or the entire population of elements used in the study? What type of sample was selected? Was a probability sampling method used? Did the authors think the sample was generally representative of the population from which it was drawn? Do you? How would you evaluate the likely generalizability of the findings to other populations?* (Chapter 4)

The sample was a nonrandom (nonprobability) sample of young, first-time felony offenders. A purposive sampling technique was used when sampling women, the authors "focused [their] efforts on obtaining responses from the entire [female] population . . . in the program over a 15-month period" (p. 175). The authors did not focus on sampling the entire male population; therefore, the authors obtained an availability sample of males sentenced to the program over the same time period. The authors admit the sample is not representative of "felony crimes committed by men and women in prison, [but] closely resembles first-time felony offenders in other shock incarceration programs as an alternative to jail or prison incarceration" (p. 176). Do you believe the authors can generalize their findings to similar populations? Why or why not?

15. *Was the response rate or participation rate reported? Does it appear likely that those who did not respond or participate were markedly different from those who did participate? Why or why not? Did the author(s) adequately discuss this issue?* (Chapters 4, 6)

The response rate was reported. The authors obtained responses from 122 of 124 (or 98.4%) female offenders and 1,031 (or 85.9%) of male offenders (p. 175). With the exception of female offenders, the authors did not discuss differences among those who did and did not participate with the study. Of the two female offenders who did not participate in the study, one did not speak English and the other woman escaped from the facility (p. 175). In general, it is reasonable to believe those who did not participate in the study were not markedly different from those who did participate. The large sample of males and females obtained for this study should have provided good variability.

16. *Was an experimental, survey, participant observation, or some other research design used? How well was this design suited to the research question posed and the specific hypotheses tested, if any? Why do you suppose the author(s) chose this particular design? How was the design modified in response to research constraints? How was it modified in order to take advantage of research opportunities? (Chapters 6–10)*

Survey research was the method of choice and probably was used for this article because it provided the most cost-effective means of gathering data. Survey research seems appropriate for the research questions posed.

17. *Was an evaluation research design used? Which type was it? What was the primary purpose of the evaluation? (Chapter 10)*

This study did not use any type of evaluation research.

18. *Were multiple methods used? Were findings obtained with different methods complementary? (Chapter 10)*

This study used only survey methods.

19. *Was any attention given to social context? To biological processes? If so, what did this add? If not, would it have improved the study? Explain. (Chapters 5, 10)*

Social context is given attention in this study on an individual level. The majority of social control and differential association indicators are measures of social conditions and experiences of the respondents. However, no attention is given to the potential importance of larger social contexts, such as neighborhood or region of the country. Biological factors that may increase the propensity for criminality are not considered in this study.

20. *Summarize the findings. How clearly were statistical and/or qualitative data presented and discussed? Were the results substantively important? (Chapters 9, 12)*

Statistical data are presented clearly using descriptive statistics, examination of bivariate relationships, and multiple regression analysis (a multivariate statistical technique) that highlight the most central findings. No qualitative data are presented. The findings seem substantively important, since they identify social control and differential association theories that can be applied to adult populations across gender groups (pp. 184–188).

21. *Did the author(s) adequately represent the findings in the discussion and/or conclusion sections? Were conclusions well grounded in the findings? Are any other interpretations possible?* (Chapter 12)

The findings are well represented in the discussion and conclusion section (pp. 188–192). The authors point out in their literature review that the focus for testing social control and differential association theories data is often limited to juvenile delinquent populations and frequently fails to consider possible differences between males and females. The findings suggest these theoretical perspectives can be applied to adult criminal populations and are important in explaining variation in criminal behavior across gender groups. You might want to consider what other interpretations of the findings might be possible. Remember that other interpretations are always possible for particular findings—it is a question of the weight of the evidence, the persuasiveness of the theory used, and the consistency of the findings with other research.

22. *Compare the study to others addressing the same research question. Did the study yield additional insights? In what ways was the study design more or less adequate than the design of previous research?* (Chapters 2, 10, 12)

This study investigated the relationship between social control and differential association on a population that had not previously received much attention (young adult felony offenders). This helped the authors to gain additional insights into the influence of social control and differential association on young adults across gender groups.

23. *What additional research questions and hypotheses are suggested by the study's results? What light did the study shed on the theoretical framework used? On social policy questions?* (Chapters 2, 10, 12)

The authors suggest no additional research questions or hypotheses. However, the study does shed light on the importance of “traditional” theoretical perspectives in explaining variation in criminal behavior among adults across gender groups. The authors note the importance of new theoretical paradigms but emphasize “that the value of ‘older’ theoretical perspectives should be remembered and . . . applied to underresearched topics” (p. 192).